Model **22A**

TAMRON

35-135mm F/3.5-4.2

CF TELE-MACRO ZOOM

OWNER'S MANUAL

ADAPTALL-2 MOUNT SYSTEM

Thank you for selecting the new Tamron 35–135mm F/3.5–4.2 zoom lens as the latest addition to your photographic equipment. Before using your new lens, please read the contents of this Owner's Manual thoroughly to become fully acquainted with the proper techniques that will give you the best results possible.
With proper handling and care your Tamron lens will give you many years of beautiful and exciting pictures.

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1. NAMES OF PARTS

2. SPECIFICATIONS

Focal Length	35—135mm
Aperture Range	F3.5—4.2 — 32, AE (w/half stops)
Lens Construction	12 groups in 14 elements
Coating	BBAR multiple layer coating
Angle of View	63° – 18°
Minimum focus from film plane	1.8m (5.9 feet)
Max. Reproduction Ratio	1 : 4 (f = 135mm, M.O.D. 0.8 meters)
Zooming System	Single Action Direct Zooming
Lens Accessory Size	67mm
Overall Length	109.5mm (w/ Mount for Nikon) (4.3 in.)
Max. Diameter	72mm (2.8 in.)
Weight	625 grams (22 oz.)
Lens Hood	Bayonet type

3. FITTING AND REMOVING THE ADAPTALL CUSTOM MOUNT

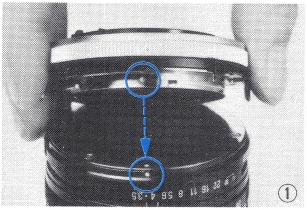
(1) Align the green dot on the bayonet of the custom mount with the matching green dot on the lens barrel and turn the mount clockwise for approximately 2cm until the mount is locked into the proper position.

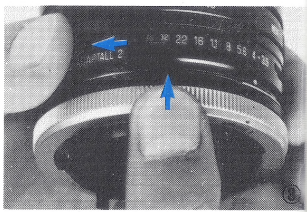
(2) The custom mounts for cameras featuring TTL light-metering, AE and automatic diaphragm control are provided with a meter coupling lever which activates the control ring. After fitting the custom mount move the meter coupling lever so that it engages in the slot provided on the lens, and the exposure control mechanism of the lens will crosscouple to the camera's system.

Note: Some mount has two coupling levers on both sides, and when fitting the mount on the lens, engage the two coupling levers in the corresponding slots on both sides of the lens.

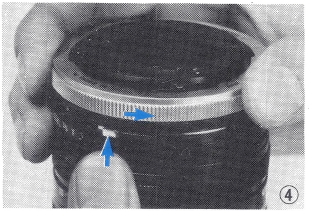
(3) Your Tamron lens with the Adaptall custom mount can be fitted to your camera in the same manner as the camera manufacturer's lenses. When fitting the lens and adapter onto a camera, be sure to move the aperture ring of the lens to the maximum opening (brightest one).

(4) Removing the custom mount: Before removing the custom mount, be sure to move the aperture ring to the maximum opening. (However, when the aperture ring is set at the AE position, depress the AE lock button to release the AE setting, and then move the aperture ring to the maximum opening.) An L-shaped mount release lever is provided directly opposite the





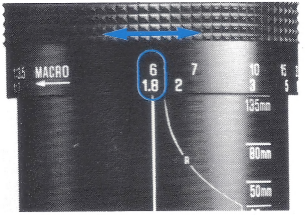
aperture indicator which, when depressed, releases the mount. Therefore, while keeping the L-shaped mount release lever depressed, turn the custom mount counterclockwise all the way until it stops and then lift the mount off the lens.



(1) Focusing

Focus by rotating the operating ring until the subject appears sharp in the viewfinder. When setting the operating ring at 135mm ring, in focal length, focusing is continuous from infinity to the macro range.

It is easy to focus at the longer focal length, due to the shallower depth of field, but please note it is not possible to put the operating ring when you focus less than 1.8m at 135mm in focal length.



(2) Checking Depth of Field

The depth of field can be checked using the dpeth of field preview button provided on your camera. (In case of Olympus cameras, the mount has a built-in preview lever.)

(3) Zooming

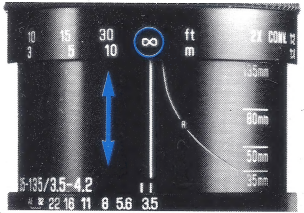
By pulling or pushing the operating ring, the focal length can be changed steplessly increasing or decreasing the size of subject. Select the desired subject size and perspective while looking through the viewfinder.

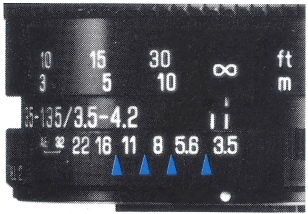
(4) Aperture Control

Set the required aperture by rotating the aperture ring until the desired f-stop is aligned with the index line. Align the desired f-stop to the blue line at the wideangle position (f=35mm) and to the orange line at the telephoto position (f=135mm). Intermediate click steps are provided from F/3.5 to F/16 for precise exposure control.

(5) AE Setting

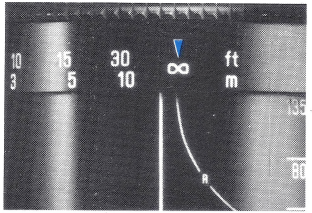
When using your lens on cameras which incorporate a shutter priority automatic mode, turn the aperture control ring on your lens to the AE position which also serves as F/32 when the lens is used on other cameras.





(6) Infra-red Index

Since the focal point shifts in infra-red photography, it is necessary to correct the focus using the focusing scale graduations. After focusing in the normal manner, shift the indicated distance to the red line marked 'R'.

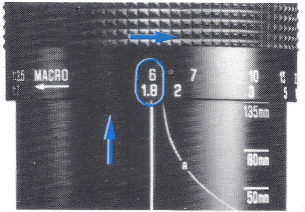


(7) Lens Hood

A bayonet type lens hood is available. The lens hood is always advantageous since it prevents unwanted light from striking the lens causing image degrading flare giving poor unit quality.

(8) Macro Operation

The macro mode can only be entered at the 135mm focal length, but there is no macro switching device necessary on the lens. Just zoom the focusing ring to 135mm and focus. Macro close-ups are that easy to create.



(9) Depth of Field Tables

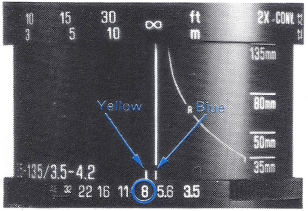
To ascertain the depth of field for example when you shoot at a distance of 3 meter (10 feet) with 35–135mm lens whose aperture and focal length are set to F/5.6 and f=135mm, read where the figures shown on the F/5.6 horizontal row intersect with the 3 meters (10 feet) value shown on the vertical distance column. In this case, the depth of field is from 2.19m to 4.87m (7.2 to 16.0 feet).

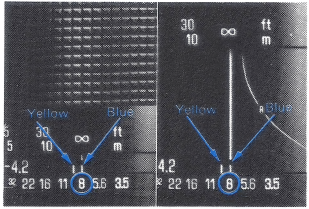
Aperture (F) / Distance (m)	3.5	4	5.6	8
1.80	1.59~ 2.07	1.57~ 2.12	1.49~ 2.28	1.39 2.5
2.00	1.74~ 2.35	1.57~ 2.41	1.62~ 2.63	1.50 3.0
3.00	2.43~ 3.94	2.37~ 4.13	2.19~ 4.87	1.96 6.6
4.00	3.03~ 5.95	2.93~ 6.41	2.65~ 8.48	2.32 16.1
5.00	3.55~ 8.59	3.41~ 9.59	3.03~ 15.3	2.60 155
6.00	4.01~ 12.2	3.83~ 14.3	3.35~ 32.9	2.83

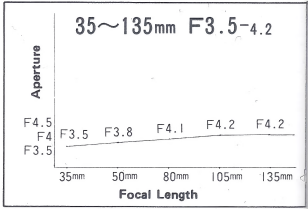
(10) Note: Shooting with flash

This lens features the 'variable aperture' design, i.e., the maximum aperture changes with zooming. In normal mode shooting, follow the instructions for 'Aperture Control', and take note of the following when shooting with flash.

1. With B/W and Negative Color films
   Set the required f-stop in between the two aperture index lines regardless of focal length. This will allow the correct exposure within the latitude of the film.
2. With Reversal Color Film:
   The latitude of the reversal color film is limited, therefore, set the f-stop at blue line for wide-angle shots at 35mm and at orange line for telephoto shots at 135mm. For other focal lengths, set the f-stop in between the two index after consulting the diagram below.
3. When shooting with the type of auto flash that controls the f-stop with a signal from the camera, use flash in manual mode.
4. When shooting with cameras that control the exposure during exposure itself, no adjustment is needed.







5. DEPTH OF FIELD TABLES

Focal Length	Aperture (F) / Distance (m)	3.5	4	5.6	8	11	16	22	32
f =35mm	1.80	1.59~ 2.07	1.57~ 2.12	1.49~ 2.28	1.39~ 2.58	1.29~ 3.10	1.15~ 4.72	1.01~ 13.3	0.86 ∞
	2.00	1.74~ 2.35	1.57~ 2.41	1.62~ 2.63	1.50~ 3.05	1.38~ 3.83	1.21~ 6.75	1.06~ 119	0.89~ ∞
	3.00	2.43~ 3.94	2.37~ 4.13	2.19~ 4.87	1.96~ 6.69	1.74~ 12.8	1.47~ ∞	1.25~ ∞	1.00~ ∞
	4.00	3.03~ 5.95	2.93~ 6.41	2.65~ 8.48	2.32~ 16.6	2.01~ ∞	1.65~ ∞	1.37~ ∞	1.07~ ∞
	5.00	3.55~ 8.59	3.41~ 9.59	3.03~ 15.3	2.60~ 155	2.21~ ∞	1.78~ ∞	1.45~ ∞	1.12~ ∞
	6.00	4.01~ 12.2	3.83~ 14.3	3.35~ 32.9	2.83~ ∞	2.37~ ∞	1.88~ ∞	1.51~ ∞	1.15~ ∞
	7.00	4.41~ 17.4	4.20~ 22.2	3.62~ 185	3.01~ ∞	2.50~ ∞	1.95~ ∞	1.56~ ∞	1.18~ ∞
	15.00	6.55~ ∞	6.07~ ∞	4.92~ ∞	3.84~ ∞	3.02~ ∞	2.24~ ∞	1.73~ ∞	1.26~ ∞
	30.00	8.31~ ∞	7.54~ ∞	5.82~ ∞	4.35~ ∞	3.32~ ∞	2.40~ ∞	1.81~ ∞	1.30~ ∞
	∞	11.4~ ∞	9.95~ ∞	7.14~ ∞	5.04~ ∞	3.69~ ∞	2.58~ ∞	1.91~ ∞	1.35~ ∞

DEPTH OF FIELD TABLES

Focal Length	Aperture (F) / Distance (m)	3.7	4	5.6	8	11	16	22	32
f =50mm	1.80	1.68~ 1.94	1.67~ 1.95	1.62~ 2.02	1.56~ 2.13	1.49~ 2.30	1.38~ 2.63	1.27~ 3.21	1.13~ 5.08
	2.00	1.85~ 2.18	1.84~ 2.19	1.78~ 2.28	1.70~ 2.43	1.61~ 2.65	1.49~ 3.12	1.36~ 3.99	1.19~ 7.51
	3.00	2.66~ 3.45	2.63~ 3.50	2.51~ 3.74	2.35~ 4.19	2.17~ 4.94	1.93~ 7.07	1.71~ 14.8	1.44~ ∞
	4.00	3.39~ 4.88	3.35~ 4.97	3.15~ 5.51	2.89~ 6.58	2.62~ 8.72	2.27~ 19.3	1.96~ ∞	1.61~ ∞
	5.00	4.07~ 6.49	4.01~ 6.65	3.72~ 7.67	3.36~ 9.98	3.00~ 16.1	2.54~ ∞	2.16~ ∞	1.73~ ∞
	6.00	4.70~ 8.32	4.62~ 8.59	4.24~ 10.4	3.77~ 15.2	3.31~ 36.8	2.76~ ∞	2.31~ ∞	1.82~ ∞
	7.00	5.28~ 10.4	5.18~ 10.8	4.70~ 13.9	4.12~ 24.4	3.58~ 476	2.94~ ∞	2.43~ ∞	1.89~ ∞
	15.00	8.75~ 54.1	8.46~ 68.7	7.21~ ∞	5.91~ ∞	4.83~ ∞	3.71~ ∞	2.92~ ∞	2.16~ ∞
	30.00	12.3~ ∞	11.7~ ∞	9.42~ ∞	7.30~ ∞	5.71~ ∞	4.20~ ∞	3.20~ ∞	2.30~ ∞
	∞	20.5~ ∞	19.0~ ∞	13.6~ ∞	9.54~ ∞	6.97~ ∞	4.82~ ∞	3.54~ ∞	2.47~ ∞

DEPTH OF FIELD TABLES

Focal Length	Aperture (F) / Distance (m)	4	5.6	8	11	16	22	32
f =70mm	1.80	1.73~ 1.88	1.70~ 1.91	1.66~ 1.96	1.62~ 2.03	1.55~ 2.16	1.47~ 2.33	1.36~ 2.70
	2.00	1.91~ 2.10	1.88~ 2.14	1.83~ 2.21	1.78~ 2.29	1.69~ 2.46	1.60~ 2.70	1.47~ 3.21
	3.00	2.79~ 3.24	2.72~ 3.35	2.61~ 3.57	2.50~ 3.77	2.32~ 4.28	2.14~ 5.11	1.90~ 7.57
	4.00	3.63~ 4.45	3.50~ 4.67	3.33~ 5.03	3.13~ 5.57	2.85~ 6.79	2.58~ 9.25	2.22~ 23.6
	5.00	4.43~ 5.75	4.23~ 6.11	3.98~ 6.76	3.69~ 7.80	3.31~ 10.5	2.94~ 18.0	2.48~ ∞
	6.00	5.19~ 7.12	4.92~ 7.70	4.57~ 8.77	4.20~ 10.6	3.70~ 16.5	3.24~ 49.0	2.69~ ∞
	7.00	5.91~ 8.59	5.56~ 9.46	5.12~ 11.1	4.65~ 14.4	4.04~ 27.8	3.49~ ∞	2.86~ ∞
	15.00	10.7~ 25.4	9.56~ 35.1	8.28~ 83.1	7.10~ ∞	5.74~ ∞	4.68~ ∞	3.58~ ∞
	30.00	16.5~ 173	14.0~ ∞	11.4~ ∞	9.23~ ∞	7.04~ ∞	5.49~ ∞	4.02~ ∞
	∞	36.1~ ∞	25.8~ ∞	18.1~ ∞	13.2~ ∞	9.09~ ∞	6.64~ ∞	4.59~ ∞

DEPTH OF FIELD TABLES

Focal Length	Aperture (F) / Distance (m)	4.2	5.6	8	11	16	22	32
f =135mm	1.80	1.78~ 1.82	1.77~ 1.83	1.76~ 1.84	1.74~ 1.86	1.72~ 1.89	1.69~ 1.92	1.65~ 1.98
	2.00	1.97~ 2.03	1.96~ 2.04	1.95~ 2.05	1.93~ 2.07	1.90~ 2.11	1.87~ 2.15	1.81~ 2.23
	3.00	2.94~ 3.07	2.92~ 3.09	2.88~ 3.13	2.84~ 3.18	2.77~ 3.27	2.69~ 3.39	2.58~ 3.60
	4.00	3.88~ 4.12	3.85~ 4.17	3.79~ 4.24	3.71~ 4.34	3.59~ 4.51	3.46~ 4.74	3.26~ 5.18
	5.00	4.82~ 5.20	4.76~ 5.27	4.66~ 5.39	4.55~ 5.55	4.37~ 5.84	4.18~ 6.24	3.88~ 7.03
	6.00	5.74~ 6.29	5.65~ 6.39	5.52~ 6.58	5.36~ 6.82	5.11~ 7.27	4.84~ 7.90	4.45~ 9.24
	7.00	6.64~ 7.40	6.53~ 7.54	6.35~ 7.80	6.13~ 8.15	5.81~ 8.82	5.46~ 9.77	4.97~ 11.9
	15.00	13.4~ 17.0	13.0~ 17.8	12.2~ 19.4	11.4~ 21.8	10.3~ 27.4	9.26~ 39.8	7.90~ 162
	30.00	24.2~ 39.5	22.7~ 44.1	20.6~ 55.3	18.4~ 80.8	15.7~ 355	13.3~ ∞	10.6~ ∞
	∞	124 ~ ∞	92.9~ ∞	65.0~ ∞	47.3~ ∞	32.6~ ∞	23.7~ ∞	16.3~ ∞

6. FEATURES

(1) High Zoom Ratio – 3.86X, yet Compact Design

In spite of high lens speed of F/3.5–4.2 and high zoom ratio, the lens is 109.5mm (w/mount for Nikon) in overall length and weighs 625 grams, made possible by the use of new optical and mechanical engineering technology.

(2) CF – Continuous Focusing

Focusing from ifinity to the minimum object distance of about 0.8m or 31.5 inches can be accomplished continuously with a single action at the focal legnth of 135mm.

Tele-Macro f=135mm, 0.8m 1:4

(3) Tele-Macro (at the focal length of 135mm)

Macro photography of 1:7 to 1:4 can be made from the object distance of 1.8m to 0.8m, when the lens is set at 135mm focal length. This allows you to make macro close-ups of insects, stamps, flowers or any other tiny subjects.

(4) Single-action zoom for rapid shooting

With this lens, both zooming and focusing can be performed with one action, from infinity to the macro range. This permits rapid adjustment in accordance with the distance and motion of any subject.

(5) Minimum Aperture of F/32 for Greater Depth of Field

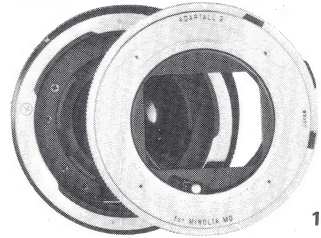
The minimum aperture of f/32 enables a wide range of expression in either the wide-angle, standard or macro range. Also highly useful with ASA400 films in bright lighting.

(6) Intermediate Click Stops on Aperture Ring Enables Precise Exposure Control

Intermediate click stops are provided in the aperture ring from f/3.5 to f/16 to enable a wide range of expression through precise exposure control.

(7) Adaptall/Adaptall-2 Interchangeable Mount System

This lens uses the Adaptall/Adaptall-2 mount system to use is possible with any popular 35mm camera. With the Adaptall-2 mount system, one mount is sufficient even with shutter-speed priority AE cameras, regardless of the maximum aperture of the lens.

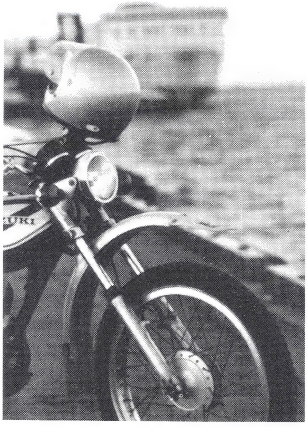


(8) Expanded vistas of photography by employing the SP flat field 2X tele-converter

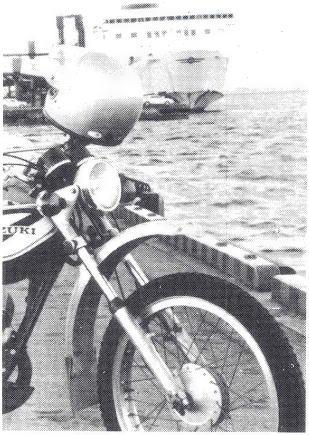
Tamron's SP 2X tele-converter is a high performance converter in the Adaptall System. It was specially developed for use with the telephoto and zoom lenses in the Tamron lenses. The combination of the tele-converter and your 35—135 mm lens expands the conventional range of photography as follows:

a. The combination of the tele-converter and the lens expands the macro range from a ratio of 1:4 to 1:2.
b. The focal length is doubled, giving a total range of focal lengths from 70—270mm.
c. An effective aperture of f/64 is made available for greater depth of field and for special effects.

Max. aperture F/3.5, 1/1000 sec.



F/64, 1/8 sec.



7. TAMRON ADAPTALL/ADAPTALL-2 MOUNT SYSTEM

Mount	Mount Type	Adaptall lenses	SP/ Adaptall lenses
For Canon	Bayonet type	X	○
For Minolta MD	Bayonet type	X	○
For Konica AR	Bayonet type	X	○*
For Contax/Yashica	Bayonet type	X	○
For Olympus	Bayonet type	○	○
For Pentax K	Bayonet type	○	○
For Pentax ES	Screw-in type	○	○❁
For Pentax Universal	Bayonet type	○	○
For Nikon AI-E	Bayonet type	○	○
For Nikon AI	Bayonet type	○▲1	○
For Fujica AX	Bayonet type	X▲2	○
For Fujica ST	Screw-in type	○	○
For Mamiya SX	Screw-in type	○	○
For Rollei	Bayonet type	○	○
For Topcon	Bayonet type	○	○❁
For Praktica-B	Bayonet type	○▲3	○
For Praktica-LLC	Screw-in type	○	○
For "C" mount for CCTV/VTR cameras and 16mm movie cameras		○	○
For "MS" mount for CCTV/VTR cameras		○	○

* Mount requires initial maximum aperture adjustment.

❁ Due to small rear aperture, this mount will not accept the SP 70-210mm F/3.5-4 (52A), SP 90mm F/2.5 (52B), SP flat-field 2X tele-converter (01F), Adaptall-2 80-210mm F/3.8-4 (03A) and Adaptall-2 75-250mm F/3.8-4.5 (04A & 104A).

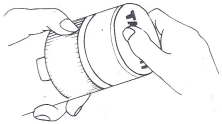
▲1 Will not synchronize with Auto Mode of designated speed light of Nikon EM.

▲2 Program AE system and AE system of shutter speed priority will not work.

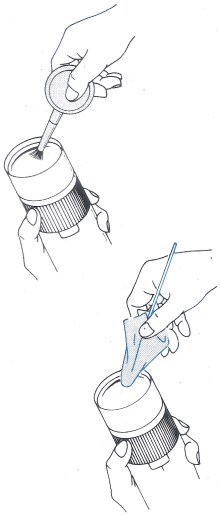
▲3 AE system of shutter speed priority will not work.

8. CARING FOR YOUR NEW LENS

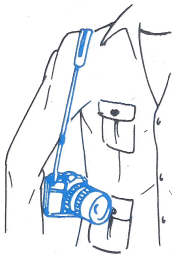
1. Avoid touching the surface of your lens. When not using your lens, be sure to put the lens cap on for protection.



2. Cleaning your lens:
   a. Use a photographic lens brush to remove dust or dirt from the surface.
   b. Moisten a lens cleaning tissue with one drop of cleaning solution and clean the surface gently.
   c. Remove excess moisture from the lens surface with a dry tissue.



3. When carrying a zoom lens mounted on your camera, hang it from your shoulder with the lens towards your body to protect it from objects that it might hit.



4. Fine photographic equipment can be delicate. Protect it from any avoidable impact.

5. Always store your lens in a cool, dry place. During humid or wet weather it is an especially good idea to store it with the silica gel packet that was supplied with your lens.

Memo

TAMRON International Service
Should any TAMRON product require service, TAMRON's international service is available in over 48 nations worldwide.

TAMRON CO.,LTD.

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